Maricopa County

Department of Public Health
Office of Epidemiology
4041 N Central Ave. Ste 600
Phoenix, AZ 85012

Malaria

Malaria is a disease caused by parasites of the genus *Plasmodium* that is transmitted through the bite of an infected female *Anopheles* mosquito. There are 4 different types of *Plasmodium* species that cause disease in humans -- *P. falciparum*, *P. vivax*, *P. ovale*, and *P. malariae*. Although Malaria has been eliminated in the Unites States since the early 1950's, cases are still reported in immigrants or travelers returning from malaria-endemic areas. The two species of *Anopheles* that were responsible for *Plasmodium* transmission prior to elimination are still widely present throughout the United States which implies a potential risk for reintroduction of this disease. Because the parasite can be found within red blood cells, the disease may be transmitted through blood transfusion, organ transplant surgery, shared usage of needles or from mother to infant before or during birth.

Signs and Symptoms

Symptoms of malaria include fever and flu-like illness that may present with chills, headaches, muscle aches, and tiredness. Other symptoms of malarial infection include nausea, vomiting, and diarrhea. Jaundice may develop in some cases and if not treated properly, *P. falciparum* infection may lead to mental confusion, seizures, coma, kidney failure, or death.

Diagnosis

Malaria can be suspected based on a patient's travel history, symptoms, and physical findings at examination. For a definitive diagnosis, laboratory tests must demonstrate the malaria parasites or their components. Malaria parasites can be identified by examining a drop of the patient's blood, spread out as a "blood smear", under a microscope. There are also tests available to detect antigens derived from malaria parasites. If you think you may have malaria, please consult with your medical provider for appropriate diagnostic tests and treatment.

Treatment

Malaria can be a severe, potentially fatal disease and treatment should be initiated as soon as possible. The type of treatment varies depending on the species of malaria, the area where the infection was acquired, and the clinical status of the patient. (See CDC's treatment guidelines for further information.)

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In Maricopa County

From 2003 and 2009, there were 100 suspect cases of Malaria reported to Maricopa County. Upon investigation, 86 cases were found to be confirmed or probable. All of these cases were acquired while visiting countries outside of the United States.

Prevention

Proper pre-exposure prophylaxis can reduce or eliminate the possibility of contracting malaria when traveling to endemic areas. Travelers to sub-Saharan Africa have the greatest risk of both getting malaria and dying from their infection. However, all travelers to countries where malaria is present may be at risk for infection. (See CDC's Malaria and Travelers information for further details)

Resources

- Centers for Disease Control and Prevention (CDC) Malaria webpage: http://www.cdc.gov/malaria/about/index.html
- Arizona Department of Health Services (ADHS) Vector-borne & Zoonotic disease webpage: http://www.azdhs.gov/phs/oids/vector/index.htm
- Malaria Map Application (CDC) webpage: http://www.cdc.gov/malaria/map/index.html
- Treatment Guidelines (CDC) webpage: http://www.cdc.gov/malaria/diagnosis_treatment/treatment.html
- Malaria and Travelers (CDC) webpage: http://www.cdc.gov/malaria/travelers/index.html